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Testing and Open Source installation and server provisioning tool for the INFN-CNAF Tier1 Storage system

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In large computing centers, such as the INFN-CNAF Tier1, is essential to be able to set all the machines, depending on use, in an automated way. For several years at the Tier1 has been used Quattor, a server provisioning tool, which is currently used in production.

Nevertheless we have recently started a comparison study involving other tools able to provide specific server installation and configuration features and also to offer a proper full customizable solution as an alternative to Quattor. Our choice at the moment fell on integration between two well-known tools: Cobbler for the installation phase and Puppet for the server provisioning and management operation.

The tool should provide the following properties in order to replicate and gradually improve the actual system features:

- 1) Implement a system check for storage specific constrain such as kernel modules black list at boot time to avoid undesired SAN access during disk partitioning.
- 2) A simple and effective mechanism for kernel upgrade and downgrade.
- 3) The ability of setting package provider using yum, rpm or apt.
- 4) Easy to use Virtual Machine installation support including bonding and specific Ethernet configuration.
- 5) Scalability for managing thousands of nodes and parallel installation.

This paper describes the results of the comparison and the experiments carried to verify the above requirements and if the new system is suitable for INFN-T1 storage system will be also described in details.

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